Southern FLIGHT

Including MODERN AIRPORTS

MARCH 1950
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HELICOPTER AIR SERVICE

(See Page 10)

Allison Turbo-Prop Engines

SINGLE OR TWIN ONE BASIC UNIT

T38 2750 HORSEPOWER
1250 LBS. WEIGHT

T40 5500 HORSEPOWER
2500 LBS. WEIGHT

These two new versatile Allison Turbo-Prop engines cover a wide range of high power requirements for modern aircraft.

The basic unit is the single section T38 engine that develops 2750 horsepower and weighs only 1250 pounds. Two of these units, connected through a dual reduction gear, form one compact engine of 5500 horsepower—the Twin T40. Each is the smallest-size, lightest-weight propeller-type power plant of its horsepower in the world.

Thus, with either the single or twin engine, Allison brings for the first time the smooth, vibration-free advantages of high powered gas turbines to a broad range of current and future aircraft.

Builder of the famous J33 and J35 Turbo-Jet aircraft engines

Allison

DIVISION OF INDIANAPOLIS, INDIANA

GM GENERAL MOTORS

Look for that welcome smile on Mac's (McCreery) face when you drop in.

Mrs. Mac (McCreery) is always ready with warm hospitality and *good* hot coffee.

Mobilgas Aircraft fueling service is rapid and efficient at McCreery's.

McCreery Aviation Company . . . operated by Mr. and Mrs. J. F. McCreery . . . at Miller Municipal Field, is only five minutes from downtown McAllen, Texas. Here courtesy and friendliness greet the visitor to the tropical Rio Grande Valley. Here, too, are full repair and maintenance facilities . . . Mobilgas Aircraft and Mobiloil Aero . . . and mighty *good* coffee poured by a lovely hostess . . . Mrs. Mac.

McALLEN

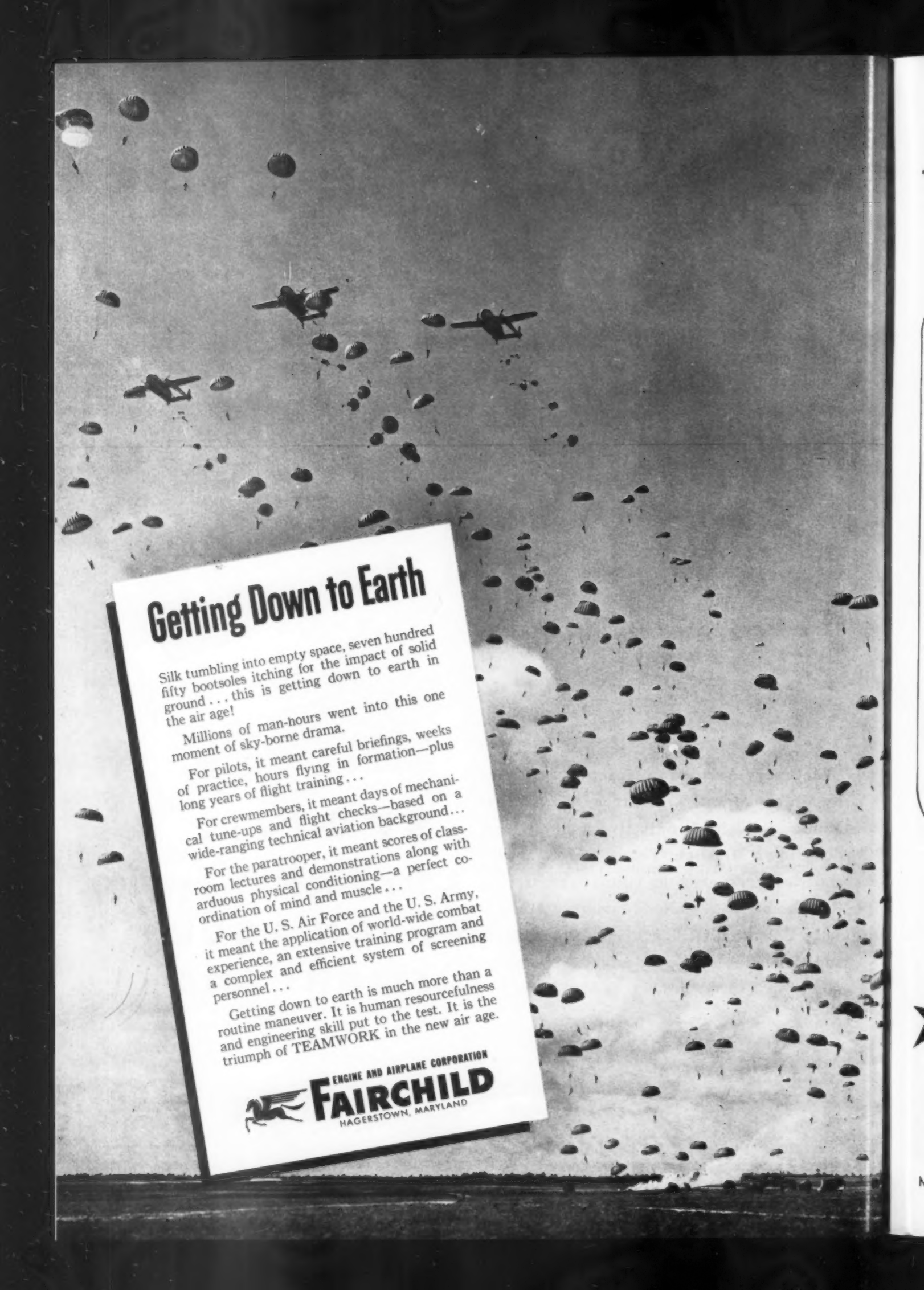
SPOT . . . for Friendly Service . . . ON YOUR FLIGHT LOG

Mobilgas AIRCRAFT

FORWARD WITH Aviation

Mobiloil AERO

MAGNOLIA PETROLEUM COMPANY



Getting Down to Earth

Silk tumbling into empty space, seven hundred fifty bootsoles itching for the impact of solid ground . . . this is getting down to earth in the air age!

Millions of man-hours went into this one moment of sky-borne drama.

For pilots, it meant careful briefings, weeks of practice, hours flying in formation—plus long years of flight training . . .

For crewmembers, it meant days of mechanical tune-ups and flight checks—based on a wide-ranging technical aviation background . . .

For the paratrooper, it meant scores of classroom lectures and demonstrations along with arduous physical conditioning—a perfect coordination of mind and muscle . . .

For the U. S. Air Force and the U. S. Army, it meant the application of world-wide combat experience, an extensive training program and a complex and efficient system of screening personnel . . .

Getting down to earth is much more than a routine maneuver. It is human resourcefulness and engineering skill put to the test. It is the triumph of TEAMWORK in the new air age.

ENGINE AND AIRPLANE CORPORATION

FAIRCHILD

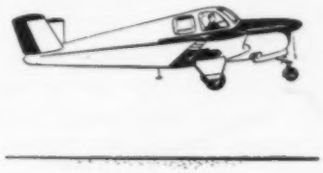
HAGERSTOWN, MARYLAND

Features like these make this NEW

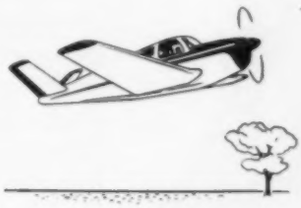
Beechcraft

a better buy than ever!

New Beechcraft propeller

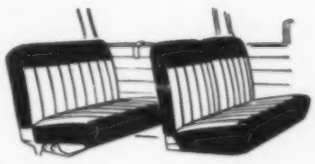


Increased take-off horsepower



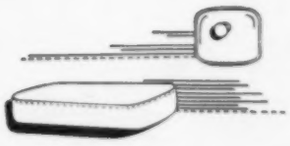
Faster-action landing gear

Increased, faster flap travel



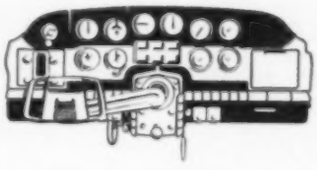
New upholstery combinations

Three new map pockets

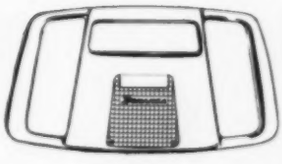


Four new arm rests

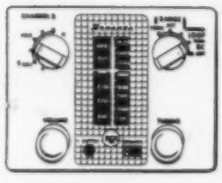
New exterior paint design



New instrument panel design



Safety-type control wheel



New radio with VHF channels

Access door for oil tank

It has no equal in performance, speed, economy, strength, safety, style and comfort!

The new B35 Beechcraft Bonanza exceeds all promises for a speed-with-economy plane that's roomy, comfortable and easy to fly! New performance features at moderate horsepower add to its versatility and safety, hold operating and maintenance costs at a *business economy* level! New operating conveniences and luxury appointments plus scores of refinements call for a personal inspection because there's room here to show only a few. See it! Get all the facts! You'll agree this greater-than-ever Beechcraft Bonanza is a better-than-ever value!

Top speed, 184 mph
Cruising speed, 170 mph
Range, 750 miles
Fuel economy, 9.5 gph

Get all the facts! There are hundreds more — about the extra advantages of the new Model B35 Beechcraft Bonanza. Check with your nearest Beechcraft distributor or dealer, or write for complete information on your company letterhead to Beech Aircraft Corporation, Wichita, Kansas.

Beechcraft
BONANZA

BEECHCRAFTS ARE THE AIR FLEET OF AMERICAN BUSINESS

Miracle in the Sky
Each day brings forth new wonders in the development of air transportation. Bigger planes . . . faster planes . . . *safer* planes!
With this continuing miracle Phillips *66* Aviation Products are keeping pace. The quality of Phillips *66* Aviation Gasoline is attested to by America's leading airlines, many of which are Phillips *66* customers. Phillips *66* Aviation Gasoline and Engine Oils rate *your* complete confidence. The Aviation Department, Phillips Petroleum Company, Bartlesville, Oklahoma.
Phillips
66
AVIATION PRODUCTS

NEW 260-HP. RYAN NAVION will look like this, plus registration number on wing. First deliveries of 260 are now scheduled to begin April 28.
—(Ryan Photo.)

AIR Report
Significant Trends and News

Faster, Pressurized Beech Twin?

Beech Aircraft is soliciting customer comment and suggestions on a proposed "big twin" executive transport successor to the popular D-18. It could not be delivered before late 1952 but is described as follows:

"The general specifications of this airplane are at present: 900 'take-off' horsepower engines, tricycle gear and round cabin section for pressurization and to accommodate 10 persons, radio equipment and baggage. This will give a definitely high-performance 'twin' that will cruise approximately 250 mph., and have a top speed of 300 mph. It will require about 3,500-ft. runways. Preliminary estimates indicate that a commercial version could be sold for somewhat under $200,000, provided the Air Force bought a quantity for military purposes."

USAF To Contract Training

First Air Materiel Command invitations to commercial operators for bids on training airplane and engine mechanic students have gone out. AMC will also invite bids from commercial operators on the costs of conducting cadet training at one of the four USAF basic flying schools, all in Texas.

TPFA Going to Mexico

Texas Private Fliers Association will stage a flight cruise to Ciudad Valles via Tampico March 24-26. . . . Biggest cross-country project yet is Oregon Air Tour's Portland-to-Havana junket of 84 private planes carrying 250 business-men fliers and their friends and families. It passed through Texas late in February en route to Cuba via Miami.

Goodyear Drops Midget Race

A brief release from Goodyear announces it will no longer sponsor the $25,000 midget airplane Goodyear Trophy Race which has featured the National Air Races for the last three years.

W. T. Piper Takes Command

W. T. Piper has cleaned house after taking over the helm of his firm, making management changes. Walter Jamoneau is in charge of engineering and Jake Miller leads sales. The Brigadier "Twin" has been dropped.

P. & W. Clinic March 22

Southwest Airmotive at Love Field in Dallas will be host on March 22 to the 1950 Pratt & Whitney Aircraft Operation and Maintenance Meeting, with P. & W. specialists on hand to discuss procedures and problems with executive pilots and other operators of P. & W. equipment. The customary ranch-style hangar luncheon will be served.

'Copter Sales in Dallas

J. D. Reed Co. has opened a new sales office on Love Field in the old Southwest Airmotive office building for sales of Hiller helicopters, for which it is distributor, and used aircraft, with Merlin E. Jacobs, Jr., in charge. Reed is Beechcraft distributor in the Houston and New Orleans areas, as well as Hiller distributor for those areas and Dallas.

Bert Howard Heads Luscombe

Reorganized following court and creditors' approval of Temco's control, Luscombe Airplane Corporation is now headed by Bert Howard as president. Howard is vice president of Temco.

$20 Million for Cutlasses

Chance Vought Aircraft of Dallas has received a contract confirming last year's letter of intent authorizing over $21,000,000 for twin-jet, 700-mph. F7U Cutlass shipboard fighters.

Southern FLIGHT
including MODERN AIRPORTS

MARCH, 1950 VOL. 33, NO. 3

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GEORGE E. HADDAWAY, Editor-Publisher; TOM ASHLEY, Managing Editor; FRED N. STONES, JR., Business Manager; E. H. PICKERING, Research; L. M. ROBERTSON, Circulation Manager.

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Just among ourselves

EDITORIALS

FALSE ECONOMY

STRANGE things go on in Washington. The Fair Deal boys seem to break as many precedents as they establish. Last month these columns discussed an unfortunate policy statement released in January by the Civil Aeronautics Board to the effect that present certificated operators of single-engine equipment would constitute a fair experiment of that type of local, short-haul air service. Now comes the Post Office Department with its contribution to aeronautical stagnation — an official statement by Assistant Postmaster General Paul Aiken in the New York Helicopter Case in which he said: ". . . this is a service the Post Office Department does not need and one which we do not believe could operate to our advantage. We believe it undesirable and will not use it even though certificated if its use will result in delaying the mail, as we believe it will."

Mr. Aiken's statement is admirable in one respect. He pointed out that the Post Office Department must be run as a business, that at the present time the Department is faced with a staggering deficit. But he failed to explain that the deficit was largely made up from subsidies to users of the mail, not from subsidies paid to people who transport it. Throughout the history of the postal service our government has encouraged and used new modes of transportation which promised improved service. Turning the cold shoulder to the helicopter at this stage of development is of tremendous significance and reveals an entirely new philosophy which threatens to freeze postal service to present conventional and established forms of transportation.

Mr. Aiken laid considerable stress on the fact that helicopters could not land on the New York General Post Office Building, nor on the Morgan Annex or the Long Island City Post Office roof, and that the Federal Works Agency has no funds for making the necessary structural changes.

When you tie this unprecedented philosophy in the Post Office Department up with the reluctance of the Civil Aeronautics Board to vigorously pursue a program of extending air transportation services to all our people, especially to the smaller communities of the nation, there is plenty of cause for alarm over the future expansion of domestic air transportation. These trends indicate the danger of freezing it in its present size and form.

With the threat of all-out atomic war hanging over our heads the best military minds recognize the vital importance of having in being a strong civil aviation structure which they can fall back on. Helicopter operations and a network of small feeder lines into every nook and cranny of the nation are as important and as valuable as the magnificent trunk systems using the large transports.

Perhaps a part of the answer is to get on with the separation of subsidy from the mail pay. If the Post Office Department is adamant in its new attitude as expressed in the New York Helicopter Case, the handwriting is on the wall as far as helicopters are concerned. National security demands that we do everything to accelerate their development and to get hundreds of them out into everyday operation without further delay. One immediate job that should be taken care of is congressional authorization of the CAA to acquire and build heliports under the Federal Airport Act. H. R. 6437 by Carl Hinshaw has already been introduced and all it needs is some push behind it to get congressional action. Air mail service by helicopter to satellite communities of metropolitan centers of population and small-plane feeder line service to hundreds of communities now off the scheduled air line routes need not be cashiered by ground-bound bureaucrats in high places preaching doctrines of false economy. Their doctrines are not only not in the national interest — they are vulnerable to pressures of public necessity and the national defense.

PROFITS FROM PLEASURE

THERE are two points involved in small airplane utilization that a lot of people don't seem to understand. One is the direct relationship between airplane utilization by present owners and the market potential; the other is the tremendous latent export market that exists for our flying equipment. We have watched the personal aircraft market nose dive from over 30,000 units sold in 1946 to about ten per cent of that figure in 1949. In a declining market as wicked as that it certainly is apparent we must be missing the boat somewhere, especially when there are more companies and individuals finding more utilization out of aircraft today than ever before in history.

SOUTHERN FLIGHT has learned from actual experience that the ideal airplane owner from the industry's standpoint is the one who justifies airplane ownership not only by business use but also through pleasure flying. In the postwar years we have carried on an editorial program to encourage more owners to fly more places in their aircraft for both business and pleasure, much as they do with their automobile. As a result of this effort we have helped put thousands of hours upon many airplanes which otherwise would have been gathering dust in a hangar. It is a corollary to successful airplane ownership that the more the plane flies the more justifiable it is to own. It also follows that the contented airplane owner is our best salesman of new airplanes to others.

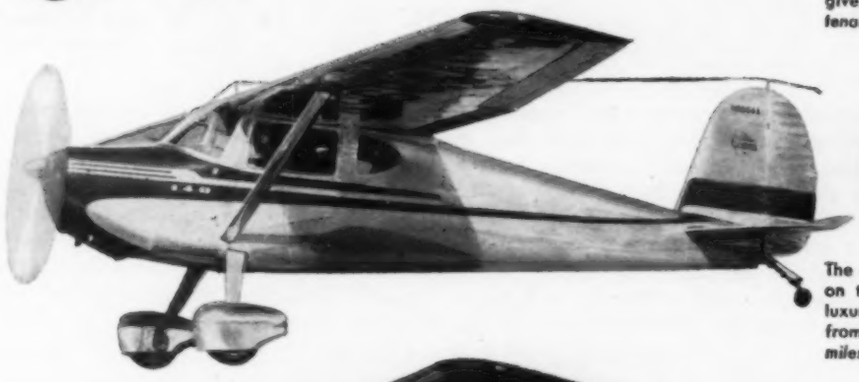
Distributors and dealers are fully aware of the great potential market for the excellent postwar airplanes they have to sell. But the cost of finding and selling the prospect is

(Continued on page 24)

★ DESIGNED TO PAY FOR THEMSELVES...AND MORE! ★

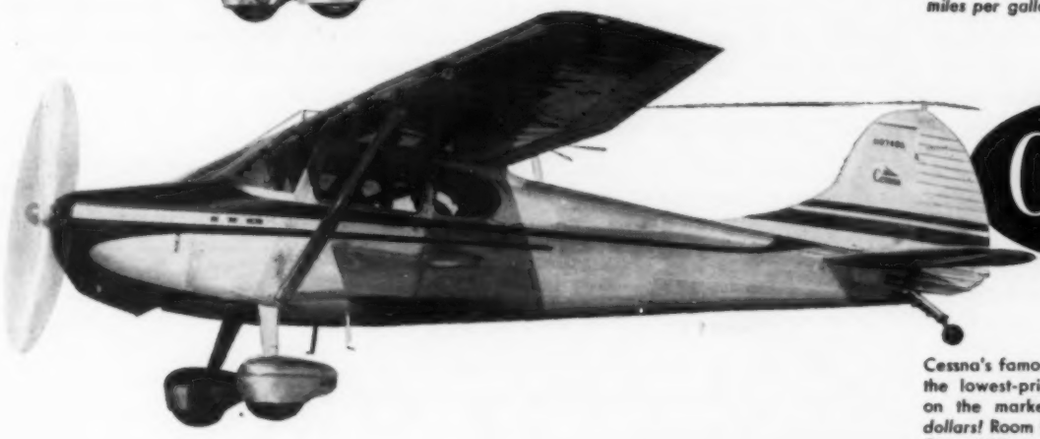
Cessna 190 and 195

The practical personal *airliner*. All-metal, 4-5 place. Airline-type engines. Your Cessna Dealer will be glad to show you that the 190 Series Cessnas give you shorter take-off, more speed, more range, more load and more comfort. By far the roomiest, most luxurious plane in its class—yet Cessna engineering gives you *extremely low operating and maintenance costs.*



Cessna 140

The *only* low-priced, all-metal 2-place plane on the market! It offers *more room, more luxury features* . . . and efficiency formulas *from all over the U.S.A. prove it delivers more miles per gallon, more speed, more range!*



Cessna 170

Cessna's famous "Family Car of the Air" . . . the lowest-priced, all-metal, 4-place plane on the market today *by several thousand dollars!* Room for 4 large men with luggage. Over 120 m.p.h. cruising speed. Over 15 miles per gallon of gas.

Pick Your Plane...From These All-Metal Cessnas

THERE'S ONE THAT FITS YOU...AND YOUR POCKETBOOK!

Take a good look at your business... *and yourself*. Then visit your Cessna dealer.

He's prepared to show you—with facts and figures and by practical test—that there's a Cessna which will more than pay for itself in your business and add extra pleasure to your life.

For example, on an average 1,000-mile trip in the U. S. A. the 2-place Cessna 140 will get you there within an hour of DC-3 airline schedules. And with the Cessna 170 and 190-195, you can *beat* DC-3 airline schedules!

Yet all of these fast, luxurious Cessnas are also engineered for the simplest possible maintenance, the most economical operation plus great stability and ease of flying. You'll be amazed when you see the figures.

Think what this increased mobility—this ability to go where you want, when you want, quickly *and economically* can mean to you and your business! Think of the competitive advantages it will give you.

Only Cessna can produce such values because only Cessna builds a complete line of all-metal personal planes.

See Your Cessna Dealer Today...Arrange for a Practical Test

USE THIS COUPON

Cessna Aircraft Co.,
Dept. SF-2, Wichita, Kansas

Please send free literature giving complete description of the Cessna 140 ( ); Cessna 170 ( ); Cessna 190, 195 ( ); Literature for model builders ( ).

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Street.....

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State.....Phone No.....

HELICOPTER AIR SERVICE

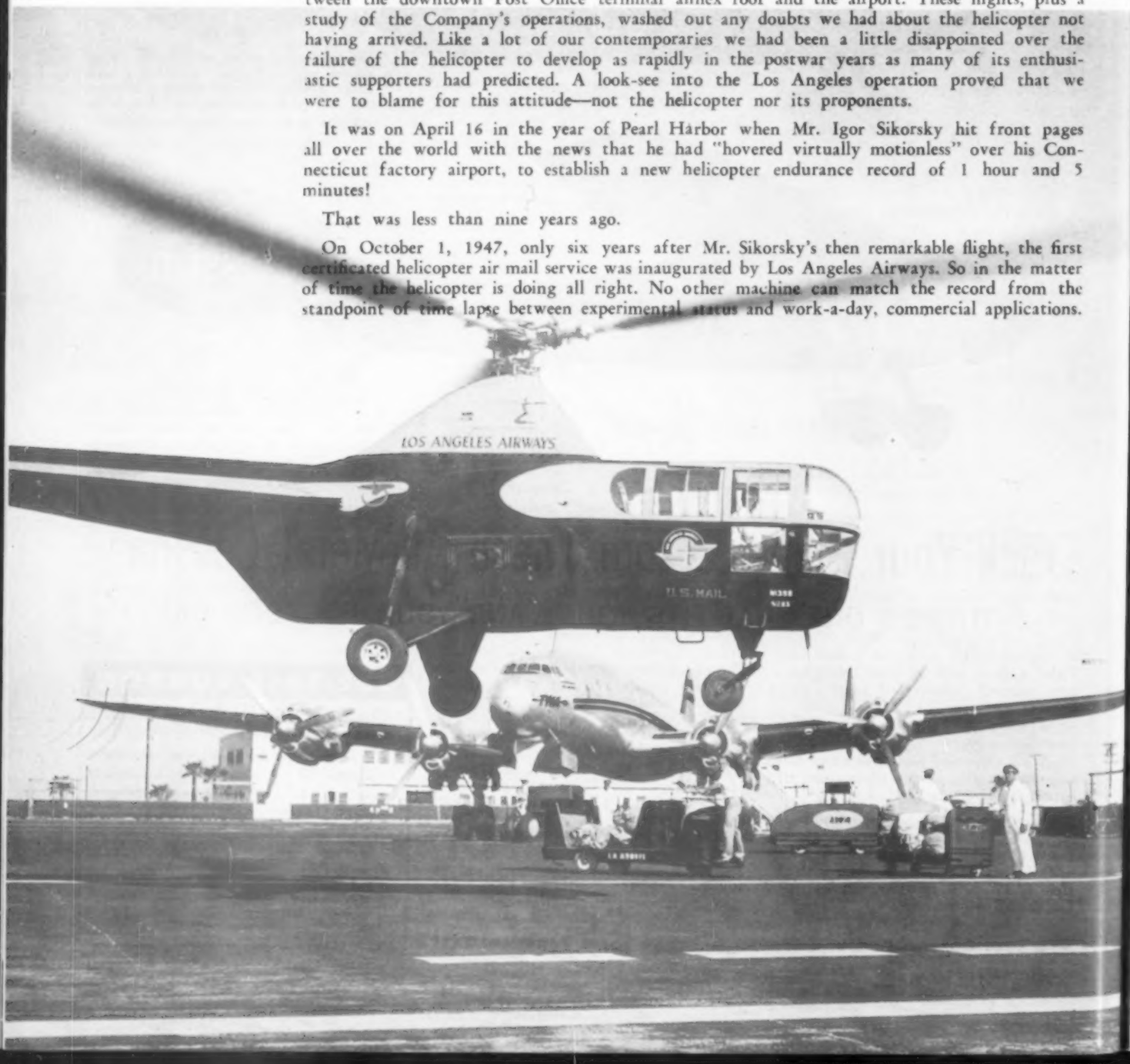
ONE of the truly nice things about the aviation business is the way history so often repeats itself. Last month we had the good fortune to ride with the mail sacks again, an experience we thought would never recur after our last ride in an open cockpit loaded with mail nearly twenty years ago. This time it was in a far more comfortable, considerably less noisy and completely windless cabin of a Los Angeles Airways Sikorsky S-51 helicopter.

Being of a greedy nature we picked the longest of four route segments on the line, which runs up and down the San Gabriel Valley, making seventeen landings between Los Angeles International Airport and San Bernardino. For good measure we also made the shuttle run between the downtown Post Office terminal annex roof and the airport. These flights, plus a study of the Company's operations, washed out any doubts we had about the helicopter not having arrived. Like a lot of our contemporaries we had been a little disappointed over the failure of the helicopter to develop as rapidly in the postwar years as many of its enthusiastic supporters had predicted. A look-see into the Los Angeles operation proved that we were to blame for this attitude—not the helicopter nor its proponents.

It was on April 16 in the year of Pearl Harbor when Mr. Igor Sikorsky hit front pages all over the world with the news that he had "hovered virtually motionless" over his Connecticut factory airport, to establish a new helicopter endurance record of 1 hour and 5 minutes!

That was less than nine years ago.

On October 1, 1947, only six years after Mr. Sikorsky's then remarkable flight, the first certificated helicopter air mail service was inaugurated by Los Angeles Airways. So in the matter of time the helicopter is doing all right. No other machine can match the record from the standpoint of time lapse between experimental status and work-a-day, commercial applications.



From hauling Uncle Sam's mail on punctual schedules to crop dusting and a score of other highly specialized uses by commerce and industry throughout the world, the "egg-beater" is moving up fast.

Although we have flown in enough rotary wing craft to have lost almost completely any feeling of novelty, we admit the ride on Los Angeles Flight 22 up the San Gabriel Valley was a rare and penetrating experience. At each of the 17 heliports, most of which are fenced-in vacant lots, there would be the post office messenger sitting in his or her automobile awaiting our arrival. As soon as we were on the ground we would throw out the mail marked for that stop and, with the motor idling, receive the sacks from the messenger. The entire operation required about three minutes at each stop.

WE were fascinated by the heliports. The company has used a lot of ingenuity in their design and construction. At the outset it appeared that the heliport problem would delay night operations for at least a year. Local city ordinances, power line problems and other difficulties seem insurmontable. The estimated cost of an adequate port was around $1,700, which was prohibitive since some 40 of them were needed. Finally, in desperation, the company found the solution to night lighting in a simple, inexpensive reflector which consists of a small sheet of scotch-light glued on a piece of masonite—a 20c deal which is wired to both sides of each fence post. The landing lights on the helicopters are so designed that one of them is a flood which lights up a wide area and outlines the heliports from the scotch-light reflectors. The other landing light is a spot and points out the touchdown point. After experimenting with all kinds of beacons, spots, blinkers and gadgetry on the ground, they finally picked an ordinary high intensity railroad fusee, which the post office messenger lights and sticks into a sawed-off oil drum full of sand just before the night schedule is due. Talk about fog and smog penetration! The fusee really does the trick and can be see for many miles. Los Angeles Airways is using more flares in their operation than all of the railroads in Southern California put together. As a result of such realistic improvisation, the heliports cost around $250 each instead of $1,700 and if they decide to move to a better location from time to time, most of the investment goes along in the move. And you don't have power line hazards to contend with or power bills to pay.

We were impressed with the terrific mail loads and the variety of shipments. We noticed several small boxes marked "camellias" and going air mail, probably to kinfolks back in Iowa and Illinois. Another interesting item was the lack of spectators at the heliports. Except for two school busses full of primary grade children at two different towns the helicopters were as prosaic to the citizenry as the Santa Fe "Chief." On approaches and take-offs people nearby rarely bothered to look up. We flew at about 1,000 feet above the terrain and never above 2,000 feet altitude. The hops varied in length from 10 to 35 miles.

The punctuality of the operation was something to marvel at. We were due in Rosemead at 11:31 and we landed at the Rosemead Heliport at exactly 11:31—not 11:33. Even with a terrific headwind on the return trip to the L.A. Airport, we arrived at 13:36, the schedule calling for our arrival at 13:33. Blowing sand called for instrument landings by the airliners, but we came in routine. We learned first hand that you can fly helicopters in complete safety when you can't see to walk.

(Continued on page 21)

BY GEORGE E. HADDAWAY

The helicopter is now established as a commercially-practical, efficient and necessary element in our domestic air transportation system, thanks to alert, technically-minded Los Angeles Airways

Bellanca Comeback

Latest in a long line of Bellanca star performers is the 190-hp. Cruisemaster

By TOM ASHLEY

SPEED and load accomplishments which made him famous through spectacular flights two decades ago are being revived by Giuseppe M. Bellanca in a bid for private owner sales with his new 4-place, $9,500 Model 14-19 Cruisemaster, for which 180-mph. cruising and 43.6 landing speeds and 1,400-fpm. rate of climb at gross weight of 2,600 lbs. are claimed. Chief drum beater is Clarence Chamberlin, G. M.'s new sales manager, who won renown in 1927 in the "Columbia" with the first of eleven trans-Atlantic flights made in Bellancas by pilots including Roger Q. Williams, Clyde Pangborn and Hugh Herndon, Russell Boardman and John Polando, James A. Mollison and others.

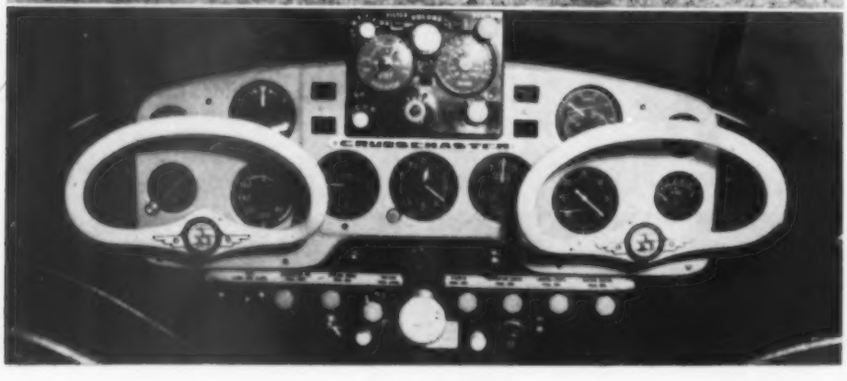
The latest in the long line of Bellanca star performers is a larger and improved version of the 4-place Cruisair. The predecessor model's 150-hp. Franklin has been replaced by a 190-hp. Lycoming and its empty and gross weights have been increased by 325 and 450 lbs. respectively for a useful load of 1,075 lbs. compared with the smaller model's 950-lb. useful load. In the process, Bellanca says the new Cruisemaster has picked up 15 mph. or so in cruising speed and 550 fpm., or more in rate of climb, these being advertised at 180 mph. vs. 165 mph. and 1,400 fpm. vs. 850 fpm. for the older model. But the new Cruisemaster is said to have retained the older one's slow landing speed of 43-44 mph., and its excellent stall characteristics.

Drum Beater Chamberlin's tributes to the new model include many of the usual sales manager's compliments—plus the following: "In all my 32 years of flying, with something over 20,000 hours, I have never flown anything that even approaches it—and I've flown most everything."

Its performance has also made G. M. Bellanca unusually optimistic. His factory delivered only 27 Cruiseairs during 1949, but in mid-February he had delivered 10 Cruisemasters, 10 more were nearing completion and purchases of materials for 50 more had been contracted for. If this initial batch moves as he and Chamberlin believe they will, he is prepared to start 100 more through.

One of Bellanca's optimistic distributors, Slim Kidwell, operator of Central Airport at Los Angeles, tells SOUTHERN FLIGHT he expects the new model to sell three or four to one over the preceding model. He had just ferried his demonstrator home from the factory when we talked with Slim on the telephone. "It's got a lot of transportation designed into it and will do 180, all right," Slim said.

"I flew nonstop from New Castle to St. Louis, which not only convinced me that it is a 1,000-mile airplane with the optional tank (40-gal. standard, 25-gal. auxiliary tank) but that it is far more comfortable and quieter than the 150-hp. model," Kidwell continued. "The farther West I got the more I began checking into performance. Between Lake Havasu and 29 Palms I was getting corrected air speeds up to 191 mph. On my last



Cruisemaster looks the same as predecessor model. But greater power, larger gear, more flap area, more stabilizer area, smoother wood wing and much more cabin comfort have been added, along with bigger loads, better climb and more speed. Instrument panel as shown is standard equipment, including Mitchell VHF Avigator, at $9,500 price. —(Bellanca Aircraft Photos.)

Now 64, here's "G. M." posed beside his improved 4-place Cruisemaster. He began designing airplanes following World War I, started building his own in late Twenties and won fame through eleven trans-Atlantic flights made in Bellancas. —(Bellanca Aircraft Photos.)

leg, from Holbrook, Arizona, to Central Airport, my block-to-block speed was 180 mph., at a fuel consumption of 11.6 gals. per hour and no benefit of wind. I was flying solo but had 65 gals. of gas and my baggage when I took off from Holbrook. Elevation of the airport there is 4,800 ft., but I still got 1,400 fpm. in the climb. This leg was flown at 10,000 ft., with 20 inches of manifold pressure and 2,350 rpm. I was using the Aeromatic No. 220 controllable propeller, plus mixture control."

Bellanca's release of details contains the following report by Factory Test Pilot Jack Keaveny: "Flying at an altitude of 2,300 ft., with the engine pulling 24 inches of manifold at 2,450 rpm (or 80.5% power), the true indicated air speed corrected to 185 mph. While flying at 6,000 ft. with the engine pulling 22.2 inches of manifold at 2,350 rpm. (or 73.5% power), the true indicated air speed corrected to 182 mph. At an altitude of 6,000 ft. with the engine pulling 22 inches of manifold at 2,450 rpm. (or 77% power), the true indicated air speed corrected to 185 mph." The factory's performance and specifications data are published in the accompanying tabulation.

The Cruisemaster is powered by the Lycoming 0-435-A six-cylinder flat engine, which develops 190 hp. at 2,550 rpm., for continuous operation. It has a plastic bonded, laminated spruce wing and spar. This wing, unlike that on the predecessor model, is not fabric covered. Instead, it carries a plastic-appearing finish much like the highly-glossed table tops found in household furniture. The airframe is constructed of chrome molybdenum steel tubing and is fabric covered.

It has more flap area and more stabilizer span and chord than the predecessor model, with less aileron area. Landing gear is larger and is improved for better ground handling. Main gear is hydraulically retractable with an electromatic actuator. An auxiliary manual pump is provided for emergencies, with separate hydraulic cylinder. In addition, Bellanca says the gear snaps into extended and locked position with a "very gentle pull out."

Flap and gear levers are located at the base of the front seats, between occupants, and the gear lever carries a miniature landing gear shape while the flap lever has a knob shaped like an airfoil for touch identification. Standard equipment in the Cruisemaster at its $9,500 price includes Mitchell VHF Avigator, turn and bank and all basic flight and engine instruments. Interior nylon fabrics, trimmed with genuine leather, are flame-proofed. Ash trays and an electric cigarette lighter are furnished. More comfortable seats include solid-type front seats instead of the older hammock-type. The door has greater width than formerly and soundproofing is more effective than ever. The 10-cu. ft. baggage compartment, with a maximum capacity of 198 lbs., has an exterior door. Other features and standard equipment include leading edge landing lights, navigation lights, Hartzell propeller Model HC-12X20-8 and chromium grill and fuselage striping. An extra 25-gal. gas tank for installation in the baggage compartment is optional and is a gravity feed system.

"G. M.," as Mr. Bellanca is called by friends and associates, is now 64 years old. By the time he was 26—which was a long time ago—he had built and flown a couple of 2-placers including a pusher and a small parasol monoplane. A consulting engineer, he came up with a 5-place cabin monoplane in 1920 which later won thirteen places in competitions. He had served Wright Aeronautical Corporation three years before launching his own business as Bellanca Aircraft Corporation of America in 1927. Among Bellancas made famous in spectacular flights during the 1927-1936 era were ships carrying such familiar names as Columbia, Pathfinder, Liberty, Miss Veedol, and the high-speed Flash, the latter being flown by Jimmy Mollison from St. John's, Newfoundland, to

(Continued on page 19)

Bellanca Cruisemaster
Model 14-19
(Factory Data)

Type: 4-pl. fabric-covered low-wing cantilever monoplane having CAA Approved Type Certificate 1A3.
Power plant: Lycoming O-435A rated at 190 hp. at 2,550 rpm.; Hartzell hydroselective Model HC propeller (fully controllable).

WEIGHTS, DIMENSIONS

(Empty weight includes airspeed, sensitive altimeter, turn and bank, rate of climb, compass and sweep second clock as flight instruments; tachometer, manifold pressure gauge, oil pressure, fuel pressure, oil temperature, fuel gauges, cylinder head temperature gauge and ammeter as engine instruments; VHF Avigator radio; cabin heating and ventilating system, soundproofing, instrument-navigation-landing lights, and unuseable fuel and oil.)

Empty weight, (lbs.)	1,525
Gross weight (lbs.)	2,600
Wing span (ft./in.)	34/2
Length (ft.)	23
Height (ft./in.)	6/2.5
Wing area (sq. ft.)	161.5
Wing loading at gross weight (lbs./sq. ft.)	16.09
Power loading at gross weight (lbs./hp.)	13.68
Maximum fuel capacity (2 wing tanks, 20 gals. each) gals.	40
Maximum baggage (lbs.)	198

PERFORMANCE

Cruising speed (75% power at 6,000 ft.) mph.	180
Recommended maximum cruising speed (from sea level to 8,000 ft.; engine has no limitations at 2,550 rpm. for 190 hp.) mph.	180
Landing speed with flaps at gross weight (sea level) mph.	43.6
Rate of climb (sea level, gross weight) fpm.	1,400
Service ceiling (ft.)	22,500
Maximum range (miles)	680

Lightplanes have been highly prized for dependable transportation in Alaska for many years. Here's Wien Alaska Airlines Chief Pilot Robert Rice's Navion, in which he flies supplies into the interior where the dog teams meet his arrival.
—(Ryan Aeronautical Photo.)

Planes at Work

BLIZZARDS with snow, sleet and ice; floods; cloudbursts and other disasters each Winter make roads, bridges and trails impassable or unsafe over wide areas of the continent. At such times the advantages of the lightplane over helpless surface vehicles always win widespread recognition through dramatic news accounts of supply, rescue and

A tractor and a wooden roller are used by Crocker Snow, Massachusetts Director of Aeronautics, to compact heavy snow during Winter months when he commutes in his Navion to his Boston office from his farm home at Ipswich.
—(Ryan Photo.)

Edward Kooper, left, and Norman Watson of Alliance, Nebraska, dropped groceries and other supplies to families marooned by blizzards.
—(Ryan Photo.)

other public services by air. For each such account, there are countless less dramatic and common-place operations by privately-owned planes. It all adds up to the fact that lightplane utilization is increasing year by year in hard-hit areas, and planes are accomplishing more than ever in all seasons of the year to maintain and improve communications and other activities in business, agricultural, commercial and plain everyday affairs.

This past Winter was no exception, as shown by the accompanying photographic accounts taken from Ryan Aeronautical Corporation's extensive files of reports describing how its popular 4-place Navions are utilized by owners. Winter problems were solved efficiently and safely in Navions to benefit many owners and hundreds of citizens served by them.

Such obstacles as temperatures 30 degrees below zero, 60-mile winds, landing strips and airports with snowdrifts up to 3 ft. in depth, and muddy fields have failed to stop operations by Navions and others at times when autos, trucks, boats, bulldozers, horses and mules, trains and even snow plows couldn't get through. When air transportation is needed most—with all other forms of communication at a standstill—the lightplane delivers the goods with outstanding performance.

Such demonstrations of airplane usefulness, duplicated season after season on an ever-growing scale, contribute convincing proof of the modern lightplane's safety and efficiency advantages to many people engaged in a wide variety of activities—advantages that always emphasize the lightplane's superiority over other forms of transportation. ★ ★ ★

Despite snow and 6,500-ft. altitude, lightplanes operate throughout Winter from this strip at Stibnite, Idaho, while all roads remain impassable.

Roy Halvorson, Minnesota Christmas tree grower, flies the snowy wastes to survey, plan cutting and supervise operations made profitable by plane.

Here are Denis E. Sullivan, Jr., Chicago attorney, and his wife, who fly their Navion from Chicago to California and return during the Winter, operating safely from fields despite snow, ice and mud.

—(Ryan Photos)

Inverse taper of XF-91 wing, which also incorporates variable incidence for a wide range of speeds, is illustrated in this accurate portrait by Charles H. Hubbell, Thompson Products artist. The 700-mph. Republic experimental is probably USAF's fastest climbing, highest flying and slowest stalling jet.

Variable Incidence and Such

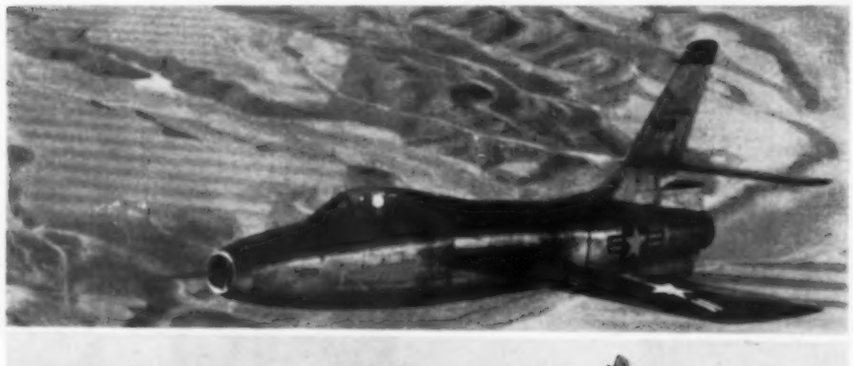
UNUSUAL design features incorporated in the Air Force XF-91 by Republic Aviation Corporation's Alexander Kartveli, R. G. Bowman, W. O'Donnell and C. E. Pappas, are said to have proved impressive in recently-completed Phase One flight-testing at Edwards Air Force Base, Muroc, Calif., with Republic's chief experimental test pilot, Carl Bellinger, doing most of the flying.

Detailed performance of the 700-mph. fighter is restricted, but it is expected to attain new standards in rate of climb, altitude performance and ratio of high speed to stalling speed. Unlike other models now in production or experimentation, the XF-91 uses inverse taper on its swept-back wings, which are wider at the tips than at the fuselage. In addition, the radical wings have variable incidence, with which high angles of attack are selected by the pilot for take-offs and landings while a thin, razor-like angle of incidence is available for high speed flight. Leading edge slots are also used. Grossing about 20,000 lbs. or more, it is heavier than current production fighters and powered by a General Electric J47 turbo jet engine of 5,200-lb. thrust, equipped with afterburner plus four rocket motors which are to be installed later. Span is 30 ft., length 49 ft., and height about 18 ft. Main wheels are two to each side, mounted tandem.

A wealth of research and testing knowledge already proved was utilized in designing the XF-91. It included NACA wind tunnel and free flight tests of dynamically-scaled rocket models of the design as well as wing and full scale investigations in the spin tunnel and by the wing-flow method.

Test Pilot Bellinger says the XF-91's speed was so low in the stall tests that the "chase" plane monitoring the flight couldn't slow down sufficiently and flew on past. The inverse taper combined with leading edge slots makes possible flying speeds lower than are possible with any other jet fighter, he said, giving the "Paddle Wing"

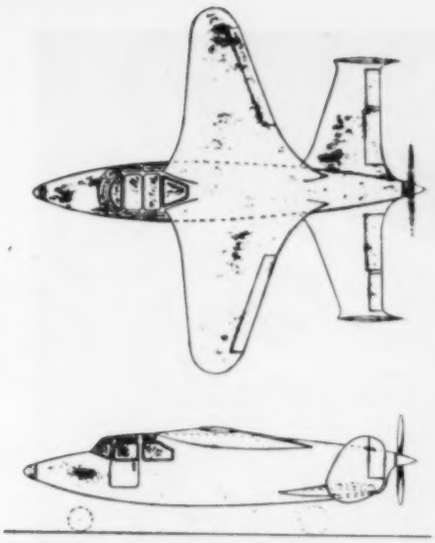
(Continued on page 21)



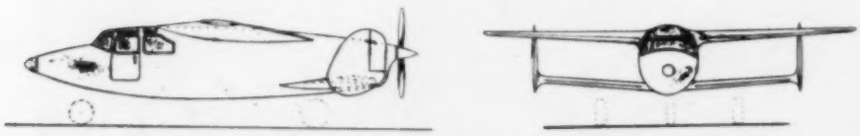
Flight and ramp shots of XF-91 show negative dihedral of odd wing, swept flight surfaces, tandem wheels on main gear which retract into outboard wing and dive brake on belly. Carl Bellinger has done most of Phase One flight testing for Republic.

—(Republic Aviation Photos.)

French Stagger



Delanne Model 250 Proposed 4-pl., 205 hp. pusher	
Gross wt., lbs.	3,364
Empty wt., lbs.	1,665
Span, ft.	27.4
Length, ft.	28.7
Wing area, sq. ft.	199.5
Wing loading, lbs./sq. ft.	16.85
Power loading, lbs./hp.	16.4
Top speed, mph.	215
Cruising speed, mph.	190
Landing speed, mph.	39
Rate of climb, fpm.	1,410
Service ceiling, ft.	18,000
Range, miles	1,000



Three-view drawing shows proposed 4-place Model 250 designed by Delanne using Duo-Mono configuration. Exceptionally high useful load would be 1,679 lbs., or about 50 per cent of gross. Ratio of high speed to landing speed would be 5.5 to 1, which is extraordinary. Duo-Mono stagger is said to accomplish these and other advantages through improved boundary layer control. Front wing has flaps and ailerons, rear wing elevators and ailerons.

—(Pardel Development Corp., Drawings.)

AMERICAN experiments are being conducted with a war-interrupted French innovation known as the "Duo-Mono configuration" of staggered wings for biplane aircraft. One commercial manufacturer is said to be studying the configuration, which is said to be available to others through a New York firm, Pardel Development Corporation, which acquired the Duo-Mono patents from Maurice Delanne, French inventor.

Delanne's development of the configuration began in 1932 following upon his work five years earlier in building the first stressed-skin French airplane. Three years of systematic wind tunnel research led to testing of a 2-place 860-hp. fighter design employing the configuration. Also tested was a 2-place 180-hp. trainer version and a glider. The fighter and trainer together had been tested for a total of about 60 hrs. in flight at the fall of France in 1940, after which Delanne destroyed the experimental fighter and trainer by flying one into the other during a landing in 1942. For this he was imprisoned by the Germans until freed in 1945 by the American 1st Army, after which he unsuccessfully attempted to interest the French Air Ministry in his configuration and brought his data to America. He joined Maurice Partiot, who, with W. E. Pestalozzi, had introduced other European developments in the U. S., including the Sciaky spot-welding process widely used in airframe construction during the war. Together they formed Pardel Development Corp., to complete engineering research on the Duo-Mono configuration and make it available to U. S. aircraft manufacturers on a licensing-royalty basis.

A brochure on the configuration, prepared by Pardel, describes the unique stagger-wing as stemming from "the idea of achieving high-lift values by a method of boundary layer control involving the use of two wings. In appearance, it gives the impression of a comparatively short fuselage carried at both ends by two stubby wings located at extreme stagger. The rear airfoil performs a lifting function as well as serving as the stabilizer.

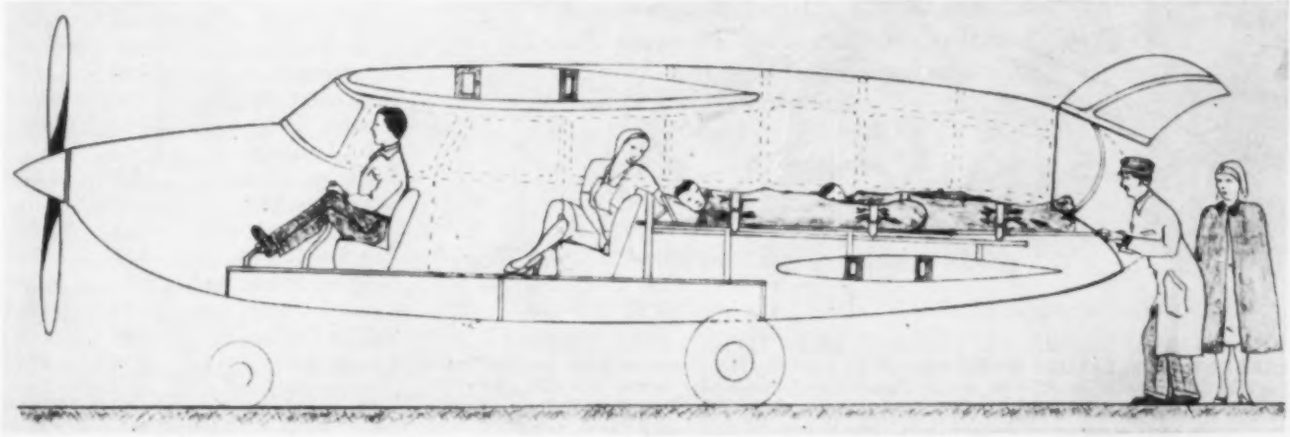
"One of the major features is the interlocking effect of the two wings, which develops a slot-like interaction. Flight tests have revealed a 35 per cent increase in lift over conventional aircraft of similar wing area and relative design cleanliness.

"The wings are arranged geometrically so that at high angles of attack, the suction prevailing near the leading edge region of the lower rear wing affects the air flow over the trailing edge region of the upper front wing in such a favorable manner as to eliminate the stalling point. Typical of the officially (French Air Ministry) documented results are:

"(1) A better than 7 to 1 ratio between top and landing speeds; (2)

Sketch of ambulance design using Duo-Mono configuration emphasizes 100 per cent fuselage utilization, said to be made possible by the patented wing arrangement.

—(Pardel Development Corp., Drawings.)

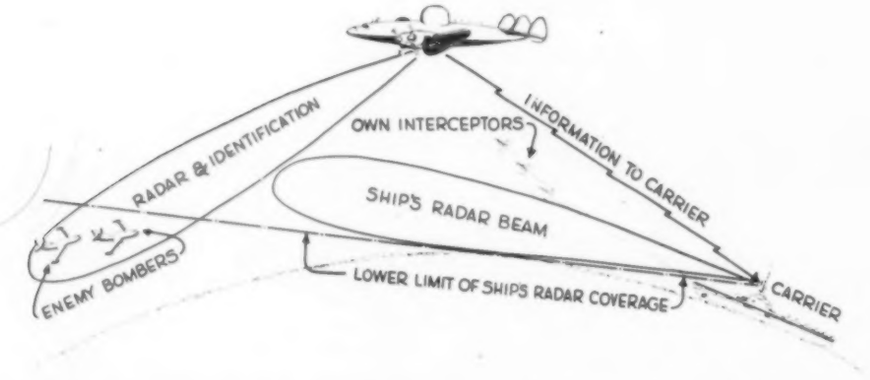


FIRST U. S. TURBO-PROP TRANSPORT will be this Convair 240 carrying two 2,750-hp. Allison T-38 turbo-prop engines driving Aeroproducts propellers. The Convair is being purchased by Allison for a commercial jet research program, after which it will be used as a demonstrator and may be loaned by Allison to airlines for regular cargo runs. Only "minor" modifications are said to be required by production-type nacelles to take the turbo-prop engines, which weigh only 1,225 lbs. each and produce 2,750 hp. Both Allison and Aeroproducts are divisions of General Motors Corp.

—(Allison Photo.)

MORE POWER, MORE WEIGHT, MORE RANGE feature this new North American YF-93A, being flight-tested as USAF's latest penetration fighter designed for combat operations close to the speed of sound. Engine is Pratt & Whitney J48 (Rolls-Royce) of 6,250-lb. thrust, which is increased by YF-93A's afterburner. Note fuselage air intake ducts, dual main wheels and stream-contoured "coke bottle" fuselage. Span is 39 ft., length 44 ft., and height 16 ft.

—(North American Aviation Photo.)



LARGER RADAR, EARLIER WARNING—that's what the Navy expects from its modified Lockheed Constellation PO-1W, which carries two jumbo radar domes and can operate at great range from land bases. Lockheed drawing shows how Connie provides carriers with early warning of approaching targets beyond ship-based radar screen.

complete disappearance of fuselage drag at normal flight levels; (3) elimination of stall (with power off or engine idling and with stick all the way back, rate of vertical descent at high angle of attack approximates that of a parachute); (4) maintenance of longitudinal stability characteristics up to a CG location of 67 per cent of the M.A.C., and (5) a 35 per cent increase in lift over a conventional design with the same wing area.

"These features permit many advantages, such as higher top and lower landing speeds, increased useful loads, smaller power requirements, substantially shorter take-off and landing runs, and 100 per cent utilization of the fuselage. The Delanne Duo-Mono configuration is a basic aerodynamic discovery made, developed, tested and proven in France before the war, and applicable to any type of aircraft."

As the accompanying Pardel drawings show, the configuration is unorthodox and the claims for 35 per cent greater lift and 100 per cent fuselage utilization indicate M. Delanne has attained exceptional achievements with his wing stagger and its slot-like effects. However, it will be difficult to convincingly prove the complete elimination of fuselage drag as long as the airplane retains a fuselage.

Pardel says no airplane in existence today has the Duo-Mono confrguration in its design, so that any tests would have to await the construction of one. Of the pre-war trainer and fighter which accumulated 600 hrs. of flight test between them in France before their destruction, only the trainer's specifications and performance offer practical comparison with today's commercial lightplanes on the U. S. market. Interesting results are obtained by quoting side by side both the Delanne data and G. M. Bellanca's data on his latest 190-hp., 4-pl. Cruisemaster, which makes the latter appear to be the highest performer in its class today. Here are the comparative figures:

	2-pl. Delanne Trainer	4-pl. Bellanca
Horsepower - -	180	190
Wing Area, sq. ft.	146	161.5
Weight, lbs. - -	2,145	2,600
Wing Loading, lbs./sq. ft. - -	14.7	16.09
Power Loading, lbs./hp. - - -	11.9	13.68
Top Speed, mph. -	195	185*
Landing Speed, mph.	37.5	43.6
Rate of Climb, fpm.	1,740	1,400†
Service Ceiling, ft.	13,800	22,500
Range, miles - -	800	680‡

*Estimated, based on advertised 180-mph. cruise; †at gross weight (2,000-fpm. rate of

climb solo advertised); ‡1,000-mi. range optional. (NOTE: Above figures on Delanne trainer are as stated by Pardel, which says it was also tested at a 2,440-lb. weight.)

It should be pointed out that while the Bellanca is a 1950 model, as against the 1939-40 model French trainer, the Bellanca's flat Lycoming engine probably produces more drag than the trainer's in-line engine. Moreover, the Bellanca's 4-pl. fuselage probably produces more drag than the tandem trainer's fuselage, and the wing and power loadings of the Bellanca are considerably higher than those of the trainer.

However, a theoretical Duo-Mono configuration of modern design is offered by Pardel in the form of a drawing-board 4-place airplane of 3,364-lb. gross weight and only 1,665 lbs. empty weight called "Delanne 250" for which spectacular claims are made. These include a 215-mph. top speed, 39-mph. landing speed, 1,410-fpm. rate of climb and 1,000-mile range—all with 16.85-lbs./sq. ft. wing loading and 16.4-lbs./hp. power loading. Shown in the accompanying sketches, it would be a "mixmaster" with pusher propeller at the rear end of fuselage.

The Duo-Mono configuration's professed 35 per cent greater lift, 100 per cent fuselage utilization and high ratio of top speed to landing speed appear to be its most valuable virtues. But they may or may not offer sufficient advantages to commercial airplane manufacturers to warrant design changes. Actually, they appear to offer more promise to specialized commercial aircraft such as agricultural planes for dusting and spraying, feeder, cargo and transport planes, and liaison-ambulance and other military types. ★ ★ ★

BELLANCA

(Continued from page 13)

Croydon Airport, London, at an average speed of 257 mph.

Clarence Chamberlin says Bellanca is modernizing the 1925 design of the Bellanca Pacemaker and the 1934 design of the Bellanca Airbus. The Pacemaker would be powered by a 450-hp. Pratt & Whitney for a 2,000-lb. payload and be outfitted with 8-10 seats, while the new Airbus would carry either an 1830 P. & W. or 1820 Wright engine for a 5,000-lb. payload with 20-25 seats.

Like these revived designs, the new Cruisemaster lacks the all-metal and nose-wheel "new look." But its performance is way up there where modern efficiency and economy demand. These essentials, and not looks or sheet-metal equipment, have always been the Bellanca hallmark. ★ ★ ★

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City of Coleman	Coleman
A. & M. College of Texas	College Station
Conroe Aircraft Sales & Service	Conroe
City of Corpus Christi	Corpus Christi
Glasson Flying Service	Corpus Christi
Crane County Airport	Crane
Carey Mize	Crockett
F. H. Jackson	Cypress
Southwest Airmotive Company	Dallas
Glen Lakes Aviation Company	Dallas
North Texas Aviation Company	Denton
Hall Flying Service	Eagle Pass
Hefner Airport	El Campo
Falcon Aviation School	Falfurrias
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City of Fort Worth	Fort Worth
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Emmett Flying Service	Genoa
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Graham Aviation Service	Graham
Greenville Majors Aviation	Greenville
Cliff Hyde Flying Service	Houston
Sky Travel, Inc.	Houston
Kerrville Flying Service	Junction
Kerrville Flying Service	Kerrville
Moyer Flying Service	Killeen
Frank Hogg Airport	Lamesa
Liberty Air Activity	Liberty
Lufkin Flying Service	Lufkin
Rogers Air Service	Marlin
Smith Aviation Company	Mercedes
Mexia Flying Service, Inc.	Mexia
Wisener School of Aeronautics	Mineola
Hopson-Putz Air Service	Mission
City of Monahans	Monahans
B. & F. Flying Service	New Braunfels
Mayhew Aerial Service	Olney
Brownair, Inc.	Orange
Brockman Aero Service	Pearland
Jefferson County	Port Arthur-Beaumont
Bob Tanner Aviation Services & Supplies	Port Lavaca
Gorman Fox	Raymondville
Fancher Air Service	Refugio
Cardwell Flight Academy	Robstown
Lane Airpark	Rosenberg
Saginaw Airport	Saginaw (Ft. Worth)
Davis Airport	San Antonio
Monroe & Witt Flying Service	San Antonio
B. & F. Flying Service	Seguin
Smithville Flying Service	Smithville
Jones & Ogden	Stowell (Winnie)
W. J. Worsham	Taft
Tegge Flying School	Taylor
Reed's Air Service	Temple
Matthew Wallace	Terrell
Gulf Coast Airport	Texas City
Carter Flying Service	Velasco (Freeport)
Zim-Tim Sky Ranch	Victoria
Wharton Flying Service	Wharton
Stoddard Aero Service	Wink

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HUMBLE OIL & REFINING COMPANY

VARIABLE INCIDENCE

(Continued from page 16)

both low and high speed advantages. Inverse taper also successfully reduces wingtip stalls due to loss of lift experienced with conventionally tapered wings, and the wing's extra thinness at the fuselage junction has reduced drag and permits a more even flow of air at this point. Lateral control in the stall was said to be full and positive.

Variable incidence of the wing was tried beginning with the XF-91's sixth test flight. "This feature proved to be entirely feasible from a control standpoint and the wing was operated through the maximum variations with no malfunctions," Bellinger reported. Others among the 40 flights were to test for vibrations, stability at higher speed ranges, afterburner thrust augmentation, elevator boost system, and high-speed dives. Republic reports the results as being "spectacular beyond general expectations." Phase Two flight tests, conducted by the Air Force, were inaugurated recently. ★ ★ ★

HELICOPTER SERVICE

(Continued from page 11)

Nearly everybody will agree that Los Angeles Airways has done more to prove up the helicopter than any other operation in America. Now in its third year, "the only certificated air line in the country without vice presidents" has gone modestly on providing air mail service to more than forty Los Angeles suburbs in a fifty-mile radius of that sprawling, mushrooming metropolis of 6,000,000 people with a remarkable 96.15 per cent schedule completion record.

Last year the line carried over four million pounds of mail which represented a 121 per cent increase over the first year's haul—truly an exceptional record for anybody's airline. And the growth curve is still upward. Last December, which can be considered an average month, the line flew a total of 478 hours over 29,719 miles at a total cost of $1.64 per revenue mile. That cost figure includes everything — flying operations, maintenance, ground costs, general and administrative expenses and even depreciation, the latter item amounting to about one-fourth of the total because with only a three-year temporary certificate the company is forced to depreciate its equipment over the ridiculously short span of 36 months.

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Compare the 4-star superiorities of the unrestricted new Meyers 145 and you'll agree it's first and foremost in travel advantages among 2-place planes.

In the Meyers 145 you'll fly greater distances with its 600-mile range (optional 1,000-mile tanks for those who desire), and cover more territory in less time with its 162-mph. altitude cruising speed. You'll fly 18 to 21 miles per gallon of fuel for important savings. Right from the start you'll be far ahead—the Meyers 145 is priced at half the cost of similar performance in larger airplanes.

Compare and you'll agree—never a better 2-place than the Meyers 145 . . . never in its price range all the efficient travel advantages of the Meyers 145.

MEYERS AIRCRAFT CO.

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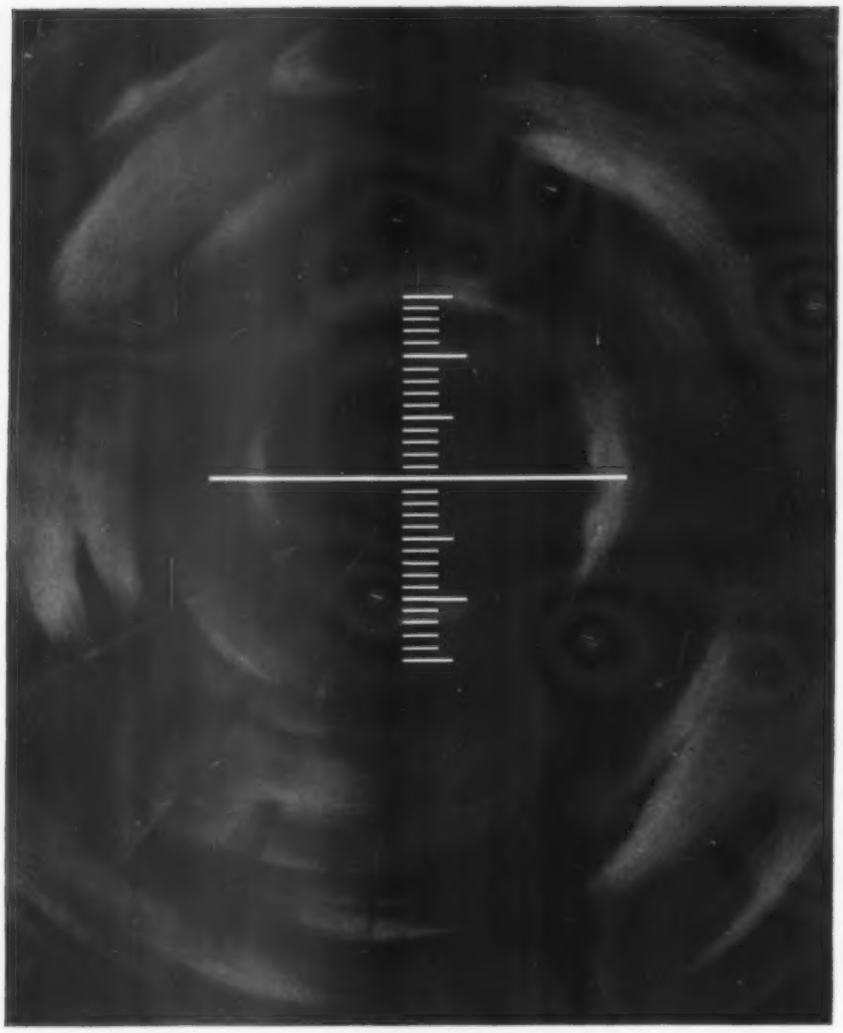

"SIXTH SENSE" for the Automatic Pilot

The new Kollsman Altitude Controller brings positive correction to automatic piloting for the precise maintenance of a selected altitude. Weighing only twenty-five ounces, this unit combines the famous Kollsman high-precision aneroid diaphragm, the recently developed Kollsman Synchrotel and an especially designed DC magnetic clutch. Sensitivity is such that the Altitude Controller will respond to as little as a two-foot change in altitude and motivate the autopilot accordingly.

Testing now: a sister mechanism of the Altitude Controller — the Airspeed Controller, which will automatically maintain constant airspeed regardless of meteorological conditions.

Here again is demonstrated Kollsman's unrivalled leadership in aircraft instrumentation and control — especially wherein a pressure-sensitive element is the basic guide. Here is the name to be relied upon for solution of similar or allied problems in practically any industry. Inquiries invited. Address: Kollsman Instrument Division, Square D Company, 80-08 45th Avenue, Elmhurst, New York.

KOLLSMAN AIRCRAFT INSTRUMENTS

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salaries and purchased additional equipment such as new rotor blades and Link Trainers, 1949 operating costs were the same as 1948 costs. That spells one thing—increased efficiency and descending operating costs. They hope to get costs below $1.00 per mile in 1950.

When talking about costs it must be remembered that the Sikorsky S-51 as originally delivered to the company was essentially a military craft. Time, money and considerable effort went into engineering and modifications to render those aircraft suitable for scheduled mail operations. With no precedents to go by, the many structural modifications, changes in the auxiliary systems, improved communications and flight instrumentation changes were simply cases of necessity being the mother of invention. For example, the rear baggage compartment had to be modified to carry 450 pounds of mail instead of 145 pounds. This required lengthening the fuselage five feet. Special landing and ground flood lights had to be installed to permit night operations, now routine with the company. A method had to be provided to transfer fuel between the two tanks for constant weight and balance control. The airline bore the cost of these many innovations. Yet they all add up to safer and more efficient operations which in turn cut costs.

Another interesting aspect of economics is the cost of the service per letter. This can be readily established by tabulating the number of letters the company carries against its gross income. At the beginning of the operation the cost ran about 11 mills per letter. Since then it has dropped to around 3 mills per letter. For the third quarter of 1948, Los Angeles Airways costs were $11.88 per ton mile by helicopter against an average of $34.94 for feeder air lines according to CAB statistics. Both have dropped considerably since then, the helicopter service dropping to around $8 per ton mile.

L.A.'s Leadership

The guiding light of Los Angeles Airways is a practical visionary named Clarence M. Belinn, who could sell buggy whips in Detroit if he wanted to. No matter if you're in Terre Haute or Timbuctu, just mention helicopter air service and somebody sitting around will mention Clarence Belinn. The two are synonymous.

Belinn didn't come into this business with the B-29. Back in the 20's he got some Air Corps training. In 1929 he joined up with the old Washington-New York Air Lines, later becoming maintenance foreman for

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are your guarantee of
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Peoria, Illinois

Louisiana
LOUISIANA AIRCRAFT
Municipal Airport
Baton Rouge, Louisiana

Minnesota
VAN'S AIR SERVICE, INC.
Whitney Memorial Airport
St. Cloud, Minnesota

New Jersey
MALLARD AIR SERVICE, INC.
Teterboro Air Terminal
Teterboro, New Jersey

New York
BUFFALO AERO. CORP.
Hangar 1, Buffalo Airport
Buffalo, New York

Pennsylvania
AVIATION CONSULTANTS, INC.
Reading Municipal Airport
Reading, Pennsylvania

Texas
GENERAL AERONAUTICS, INC.
Meacham Field
Fort Worth, Texas

Washington and Alaska
WASHINGTON AIRCRAFT & TRANSPORT CORP.
Boeing Field
Seattle, Washington

Mexico
MORGAN & WALTZ, SUCS., S.A.
Monterrey 101-410
Mexico City, Mexico

Puerto Rico
DORADO AIRFIELD
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(Branch Off.: International Terminal, San Juan)

As An Industrial Tool

The *Navion* is called upon by every industry to perform under the most rugged circumstances. Today's "minute men of industry" depend on their *Navion* twenty-four hours a day Summer and Winter as a means of filling business responsibilities in the North, South, East and West. Such utility covers thousands of miles from home base in each trip. Wherever you go you will find available the superior brand of service provided by the Ryan-Authorized Sales and Service Operators listed.

Here you will find factory-authorized parts and qualified service personnel who know your Navion from A to Z. Be sure—rely on *Ryan-Authorized Navion Service* from coast to coast.

Ludington. After the 1934 air mail contract cancellations he went with Boston and Main Airways and subsequently held down management positions with Kansas City Southern, Hawaiian Airlines and Matson's aviation division. He formed Los Angeles Airways in 1944, patiently waiting out the certificate of convenience and necessity the Civil Aeronautics Board granted in the nation's first helicopter case in 1946.

It was a lucky day for aviation in general and helicopters in particular when Belinn got that certificate. His engineering and airline maintenance background equipped him with the technical experience and knowledge such an enterprise has to have. When you bump into a relatively new and eminently successful aeronautical venture these days, like Los Angeles Airways, you immediately seek out the reasons for success. In this case it's C. M. Belinn and his many years of nut-bustin' know-how in aircraft shops where public acceptance of air transportation actually derives — through proper maintenance of equipment on up through schedule completions and safety statistics.

What of the Future?

Belinn says L.A. Airways does not expect to depend upon a mail subsidy for existence and he intends to go in for passengers just as soon as equipment is available and service is feasible for high density, short haul routes. He needs a 10-place machine, which, with a 100 per cent load factor, will give him a potential of $2.50 per mile from passengers alone. Mail and express should be good for about 50 cents per mile, so he figures a gross revenue of between $2 and $3 per mile from a sixteen thousand pound gross helicopter. He says that such a machine is in the works.

CAB Chairman Joseph O'Connell boards Sikorsky for scheduled mail flight on Los Angeles Airways. C. M. Belinn (left) has made helicopter mail service practical. —(Los Angeles Airways Photo.)

As the routes stretch out the per mile fare will drop, according to Belinn. "If we can move 7,500 pounds of mail daily on and off one single rooftop, using improvised, wartime, single-engine equipment, what couldn't we move with some equipment designed for the job we can and want to do?" Belinn asks. The answer to that one is obvious.

Belinn's successful helicopter air mail operation has been the original testing laboratory that pushed the helicopter into manhood insofar as commercial operations are concerned. His success was the principal reason for the CAB approving a similar certificated service last year in the Chicago metropolitan area. In recent weeks the New York helicopter case has been heard with good possibilities of favorable action by the Civil Aeronautics Board despite arguments by the Post Office Department against the service there.

You can't discount the fact that the citizens of the forty cities on Los Angeles Airways' routes get their air mail from the East at the same time the business men in downtown Los Angeles get theirs. They pay as much for an airmail stamp as the man in the heart of the metropolis pays so they're entitled to the service. The recent population trends of the nation throw an important light on these satellite cities all over the country. They will demand such service. And it isn't likely that the Post Office Department or other government agencies involved will turn a deaf ear to such demands.

This natural pressure in an expanding economy, plus the remarkable achievement of Los Angeles Airways with five Sikorskys, certainly points to the early and orderly establishment of additional helicopter services throughout the nation. Public convenience and necessity must be served. The helicopter has proved its worth in that service. ★ ★ ★

'Something for Nothing' in Performance from Twin Bonanza's Exhaust Tubes

As flight-testing continues on Beechcraft's Model 50 Twin Bonanza, it appears that Beech engineers are succeeding with an outstanding but uncomplicated, inexpensive innovation which has the effect of giving "something for nothing" by achieving 10 per cent more performance. This is the use of simple exhaust tubes for jet-effect thrust and more efficient engine cowling.

As first revealed last month by SOUTHERN FLIGHT, the 6-cylinder, 260-hp. Lycomings powering the Twin Bonanza are augmented with two exhaust tubes each, one for each bank of cylinders. These are 3 inches or more in diameter, several feet long and open at both ends. At the forward end, which is near the firewall, exhaust pipes from 3 cylinders empty into each tube. So does the flow of cooling air which is taken in at the nose of the pressure cowling and is directed in as straight a line as possible around cylinder heads and back into the tube. This accelerated air and the exhaust gases, which are also piped in as straight a line as possible, flow together in the big tubes and are dumped out the rear.

Beech has not divulged details of the system, but some observers believe it actually adds about 10 per cent to the Twin Bonanza's performance in take-off, climb and cruising speed.

A 10 per cent performance gain would mean that Beech engineers are giving the Twin Bonanza the equivalent of about 50 additional horsepower at no cost in frontal area, added fuel consumption or other complications—a case of "something for nothing" through enlightened design and power plant treatment.

JUST AMONG OURSELVES

(Continued from page 8)

terrific; they just don't seem to know where to start. We are firmly convinced that one of the best bets being overlooked is the encouragement of present owners — especially business men and farmers—to go more places in their airplanes in group flights purely for pleasure. Hunting and fishing resorts, spots in Canada or Mexico are within a few hours of home base and very little promotional work is involved to get up several plane loads. You not only get prospects from the present owners but the prospects don't have to be hit over the head to get a demonstration. It's a natural in many respects. Everybody pays his own way. The increased hours on the present customer's airplane means more business whether airplane sales result or not. We recommend the idea without reservation to the alert aircraft dealer and distributor looking for ways to bolster his business in a saggy and declining market. This publication will be happy to provide ideas on where to go. ★ ★ ★

The Birdmen's Perch

Famous last words: "I won't stall out, I've got too much air speed!"

You won't hear a crack like that from Air Force or Navy trained flyers, because they know you *can* stall at high speeds.

But—there are still plenty of lightplane pilots who figure that the phenomenon is restricted to high-speed planes.

Actually, you can hit a high-speed stall in any plane. This maneuver is seldom demonstrated in civilian flying because it's plenty rough on both plane and pilot.

Always remember: at a given air speed, you can curve the flight path of a given plane only so sharply. Try to exceed your plane's limitations and—tut-tut, such a promising pilot, too!

AND NOW . . .

Leave us have a moment of silence for those embattled pilots who haven't yet discovered the wonders of Gulfpride Aviation Oil—Series D!

Listen—you can hear the laborings of their tired engines on the way to overhauls.

What a pity some pilots don't know that Gulfpride Aviation Oil—Series D—is the world's finest detergent dispersant oil for horizontally opposed engines. It's the only aviation oil put through Gulf's exclusive Alchlor Process to remove extra carbon and sludge formers.

How sad these same pilots don't realize that Gulfpride Aviation Oil—Series D—could increase their periods between overhauls up to 100%!

Pass the crying towel, Maggie.

LITTLE KNOWN FACTS DEPT.

Ah—but there's good news at LaGuardia tonight! If the lights burn a little later than usual, if a few scheduled flights fail to materialize, blame it all on A. P. Magner, Asst. Chief Dispatcher for Pan Am.

For his L.K.F. (with proof, mind you), this august personage has earned the most honorable Commission of Perch Pilot (br)—"bottom rung," that is.

Now, A. P., if you'll just forget your ecstasy for a minute and come down from the chandelier, we'll make with your L.K.F.A.W.K.P. (For youse guys what

can read: Little Known Facts About Well Known Planes.)

"Due to fuel consumption, the Boeing Stratocruiser loses weight in flight at a rate equal to one adult passenger disembarking every 3 minutes."

Your Commission is en route, A. P., trot out the gilt-edge frame.

Hey, you, the guy weeping in his beer . . .

Don't remain unsung forever. Send your Little Known Facts About Well Known Planes—with PROOF—to this address:

GULF AVIATION DEPT., GULF BUILDING
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SMACK!
BECAUSE GAUGES SOMETIMES LIE•••
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AND YOU MIGHT BE EMBARRASSED BY AN ACUTE SHORTAGE OF•••
BYE NOW
THAT SUPER-POWERFUL GULF AVIATION GASOLINE!
GULF

Comfort and ultra-sensitive reception are combined for the first time in

fly-fone

Shown above is the Super Model with individual volume control for use where Fly-Fone and old fashioned phones must be used together, as in many airline situations.

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Veteran Air Pilots Association

Meet the members of a unique organization of old-time pilots who have no officers, meetings, politics, by-laws or dues.

By JIM WHEELER

A LOT of VAP's learned to fly when they could least afford it. And despite the sacrifices they kept at and eventually made aviation their profession. This was generally for better or for worse and in many, many cases these people even now are continuing to stay with flying —for better or for worse. It is what they like, it is what they want and it is a profession they know all about, regardless of prosperity or the lack of it. That's what has made aviation as great as it is—the determination of a lot of people who won't quit.

VAP No. 344 is one of them. He is Gerard (Jerry) De Munck of South Bend, Indiana, who soloed on a Friday the Thirteenth in 1932 in an 0X-5 Waco 10 at South Bend. Out of $60 a month and while supporting a wife and daughter, he put into flying every penny he could save to get 13 hours and a private certificate. Al Meyers was the CAA Inspector who gave it to him. As usual, the new pilot slowed down and put his savings into $395 of loose cash about 9 months later, when he bought a used Waco for his own, hangaring it 15 miles from town on his brother's farm. This purchase of an airplane was such a drain that

Gerard De Munck

it wasn't until 1935 that he had 50 hours and could qualify for a limited commercial certificate and to haul passengers for hire within a 50-mile radius of home port. Then his flying time built up more rapidly and he started earning a living barnstorming later that year after obtaining a transport certificate with 201 hours.

Instructing, hopping passengers,

The New NARCO Panel for Beechcraft Bonanzas

The new NARCO VTA-2 Transmitter which provides high-power transmission on all private aircraft VHF frequencies, including two ground control channels is now available in an attractive single package that combines the transmitter, the receiver, and the Omni **all on one panel! And at the same time have all controls match those of the Bonanza.**

NARCO complete, as illustrated, installed by our shop.....**$786.75**

A NARCO for Your CESSNA

More NARCO units are sold than any other make. Proof of why the NARCO Antenna has become a familiar sight on personal and executive airplanes all over the country. Cessna owners have found the NARCO OMNI is also the best buy dollar for dollar at $717.75 complete (panel extra) and installed by our capable technicians.

The NARCO VFA-1 Filter-Amplifier for tone-localizer is available at $99 additional.

Also, individual NARCO units are available for immediate delivery for installation in any type of private or executive aircraft, including 1950 models.

See a demonstration of this Omni at the

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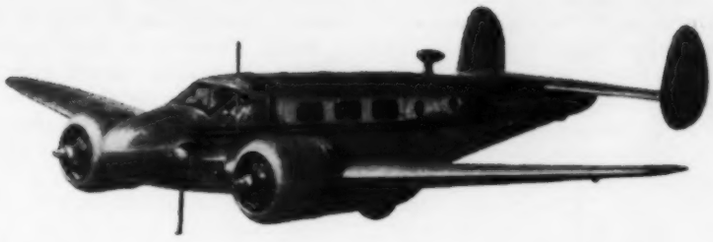
Milwaukee, Wisc.

Truax Field
Madison, Wisc.



Combine two of the world's finest airplanes with a sound service program and you have a good investment for business or pleasure.

Beechcraft

BEECHCRAFT engineering has led the field for many years in design and performance, but all this would not mean much to the average owner unless he could be assured his airplane will be serviced by the same technical ability and tools used to build this thorobred of the airways.

You can have the assurance of complete satisfaction when you leave your Beechcraft for service, 100-hour check or major overhaul . . . at a Certified Beechcraft Service Station

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Atlantic Aviation
Teterboro Air Terminal
Teterboro, New Jersey

Butler Co., Aviation Division
Municipal Airport
Chicago, Ill.

Washington National Airport
Washington, D. C.

Francis Aviation
Capitol City Airport
Lansing, Michigan

Harte Flying Service
Municipal Airport
Wichita, Kansas

Ohio Aviation Company
Dayton Municipal Airport
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Check with these Certified Beechcraft Service Stations when you are in need of qualified service.

Service

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Gregg County Airport
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J. D. Reed Co., Inc.
Municipal Airport
Houston, Texas

New Orleans Airport
New Orleans, La.

Roscoe Turner Aeronautical Corp.
Municipal Airport
Indianapolis, Ind.

Southwest Airmotive
Love Field
Dallas, Texas

Tulsair Distributors, Inc.
Hangar 5, Municipal Airport
Tulsa, Oklahoma

Wings, Incorporated
Wings Field
Ambler, Pennsylvania

Philadelphia International Airport
Philadelphia, Pennsylvania

charter trips here and there and working in the winter as an auto mechanic came next. By 1937 he was able to open his own flying service at La Porte, Indiana. With the war, he entered CPT as an instructor and in 1943 he became a Northwest Airlines pilot flying domestic and Army cargo on Alaskan routes for nine months, after which he joined Republic Aviation at Evansville as a test pilot. When peace came and after Republic folded its Evansville operation in 1945 he returned to South Bend, began instructing and six months later with a friend bought a converted Cessna and a new Stinson 150 and entered charter work. Another two years and this was no longer practical so he started flying a Beech Twin for a small manufacturer, whose sales started falling off in 1949 with the result that the pilot was among the first to be affected in payroll economies which also included selling the ship. Since then Jerry has been free-lancing, instructing, giving flight tests and doing some charter when not looking for an opening which might use his sales and flying experience, which has provided him with a current commercial license with instructor, instrument, single and multi-engine ratings and about 8,000 hours of flying.

Leslie P. Arnold

VETERAN of both wars, Les Arnold has behind him 14 years in the Army Air Forces and 17 years in commercial aviation and is now vice president of Eastern Airlines. In 1924 he was one of four pilots, flying single-engine biplanes, in the Army Air Corps group which completed the first round-the-world air trip. It came after Arnold, as a lieutenant, took part in experimental development of air attack weapons, dropping the first smoke screen from the air, making the first aerial photo surveys of many Southern states and, on loan from the Air Corps to the Department of Agriculture, participating in development and performance of the first aerial crop dusting experiments near Tallulah, Louisiana. In 1921 he was a member of General Billy Mitchell's group which conducted air-sea bombing tests off the Virginia Capes.

Resigning from the Army in 1928, he entered commercial aviation as assistant to the president of TWA. Eight years later he resigned this position to become vice president of PCA and in 1940 he joined Eastern Air Lines as assistant to Capt. Eddie Rickenbacker. Returning to Army service in 1942, he organized the 39th Air Freight Wing, following which he went overseas to command the ASC's Ferry and Transport Services in England. During the Normandy invasion his command's cargo planes supplied the rapid advance across France, in

(Continued on page 33)

No. 13 in a Series (Advt.)

Radio Reviews

LEAR IMPROVEMENTS and developments in aircraft radio have been outstanding in recent months. For example, Lear now has remote tuning heads for both VHF transmitters and receivers. The Lear Omnimatic is more dependable than ever. Pilots are finding the new Lear Orienter incorporates genuine ADF progress. There are other newsworthy Lear developments, including the new VHF transmitters and receivers and antenna.

IMMEDIATE DELIVERY and installation of all the latest Lear equipment are possible at our expanded Love Field shops. We carry them in stock. All of which is by way of proudly announcing that Associated Radio has been formally designated as Lear Distributors, being equipped with a full line of Lear products and parts for better service without delay.

KNOW-HOW IN RADIO SELECTION, INSTALLATION AND MAINTENANCE is our specialty. Drop in to see us any time and talk radio with our communications specialists.

★ **LEAR Distributors**

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★ **ARC** ★ **VHF AVIGATOR**

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North Texas Distributors for

Doolittle Oil Field, Railway, Taxicab Communications

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LOVE FIELD • DALLAS

No Other Plane Combines So Many Features So Well

Ryan Navion

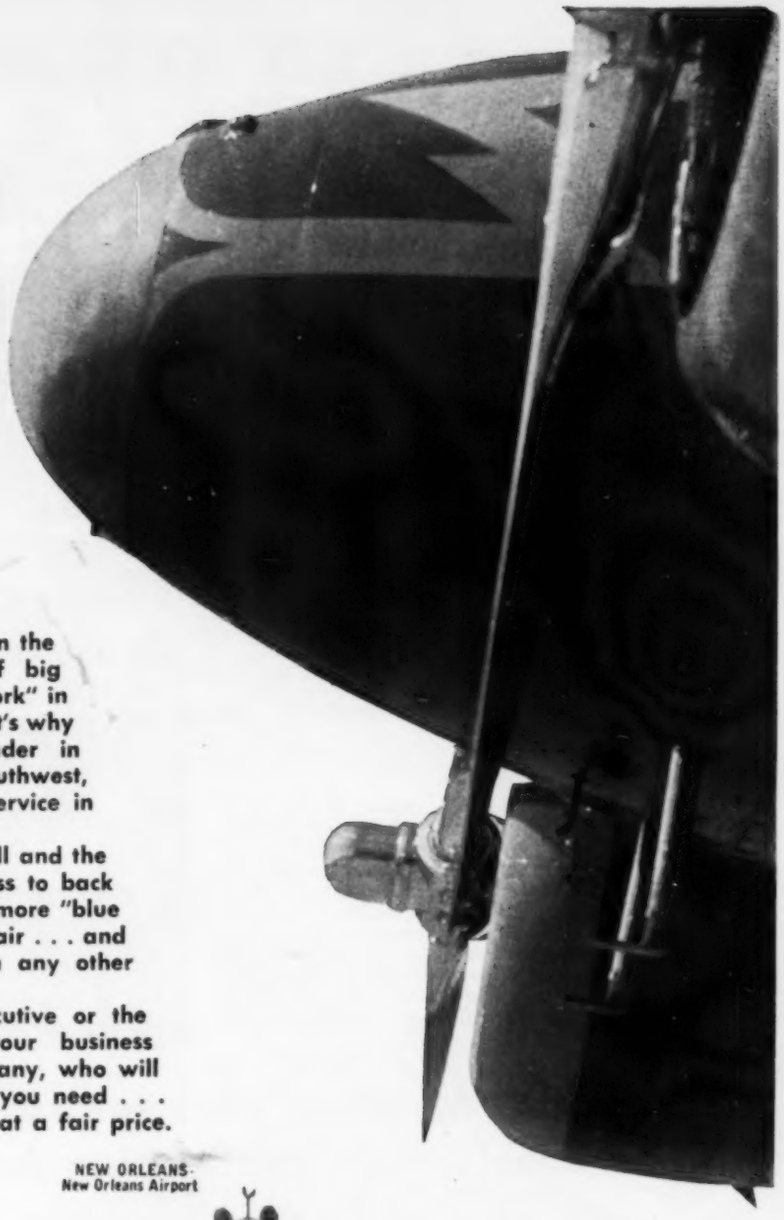
PRECISION . . .

In the Rebuilding of Aircraft Engines and Engine Accessories Is Essential to a Good Reputation. Our Customers Have Proven the Reliability of Engines and Accessories Rebuilt by . . .

PRECISION AEROMOTIVE CORPORATION

MUNICIPAL AIRPORT WYDOWN —9-1234— HOUSTON 17, TEXAS

Big Business Puts it's Money On This Nose!



Check traffic in the air for more profits on the ground and you'll find that more of big industry's successful executives "fly to work" in Beechcrafts than any other airplane. That's why J. D. Reed Company, long-time leader in aircraft sales and service in the Southwest, chose Beech for distributorship and service in America's busiest spot.

With the best product in the air to sell and the most complete service in the business to back it up, J. D. Reed Company has put more "blue chips" of American business in the air . . . and kept them safely there . . . than any other organization in aviation today.

Buy the Twin-Engine Beech Executive or the 4-place Beech Bonanza, as your business requires, from J. D. Reed Company, who will back up sales with the service you need . . . when and as you need it . . . at a fair price.

HOUSTON
Municipal Airport

•

NEW ORLEANS
New Orleans Airport

OPERATING A FEEDER SERVICE PROFITABLY

BONANZA AIR LINES' "Route of the Gold Strikes" now links Arizona with Nevada—is first to bring the facilities of air transportation, air mail, air express and freight to many Nevada and Arizona towns never before serviced by a scheduled air carrier. Under the able guidance of its president, Edmund Converse, Bonanza Air Lines—with headquarters in Las Vegas—has steadily increased the scope of its operations and service. Typical of Bonanza's insistence on quality is the fact that it uses *Texaco Aviation Gasoline* and *Texaco Aircraft Engine Oil exclusively.*

Bonanza Air Lines uses Texaco Aviation Products and Lubrication Engineering Service

Profitable feeder operations call for keeping schedules up and costs down. Texaco can help notably with both — as Bonanza and similar airlines everywhere will gladly tell you.

Texaco Lubrication Engineering Service, for example, can suggest many ways of reducing maintenance costs . . . practical, proved ideas that simplify service and lubrication procedures, and keep the number of lubricants required at a minimum.

Texaco Aviation Fuels and Lubricants, of course, are uniformly tops in quality . . . assurance of dependable engine performance. That is why they are so widely preferred throughout the industry . . . why, in fact, *more revenue airline miles in the U. S. are flown with Texaco Aircraft Engine Oil than with any other brand.*

Let a Texaco Aviation Representative help *your* operation achieve major airline maintenance economies. Just call the nearest of the more than 2,000 Texaco Wholesale Distributing Plants in the 48 States, or write The Texas Company, *Aviation Division,* 135 East 42nd Street, New York 17, New York.

TEXACO

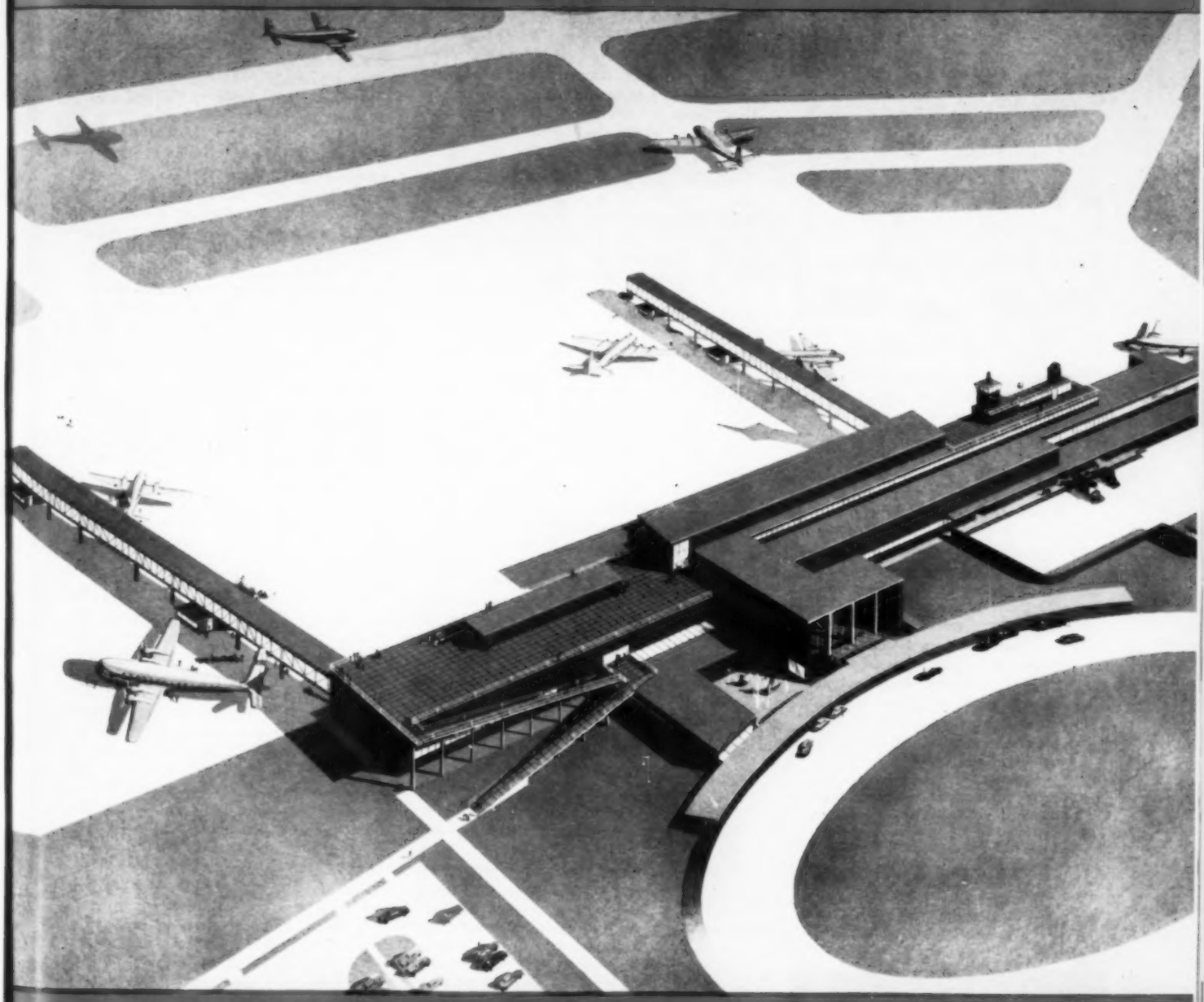
TEXACO Lubricants and Fuels

FOR THE AVIATION INDUSTRY

TUNE IN . . . TEXACO presents MILTON BERLE on television every Tuesday night. METROPOLITAN OPERA radio broadcasts every Saturday afternoon.

VOL. XIII, NO. 1 MARCH, 1950

Modern AIRPORTS



THIS MONTH'S MODERN AIRPORT honors go to Philadelphia International Airport's proposed new "finger type" terminal building, with ramp loading for 17 transports adjacent to "fingers." Substantial economies in costs and space are claimed for the design over more commonly used "peripheral" terminals. Ground level of fingers is clear for easy passage of ramp traffic such as dolly trains. All passenger movement within the building and to plane berths is on the second floor level. Restaurant, observation deck and other facilities are on the third floor level. Ramps and escalators are utilized. Note how auto park (2,500 cars) is ramp-connected to third level for handling large crowds without congesting passenger lobby on second floor. First floor, except for entrance lobby and baggage pick-up area, is for use of airline operation offices, post office, air cargo and express, bonded warehouse, central kitchen and food service, employe cafeteria and dolly concourse for baggage and other services. Street entrance passenger platform is 400 ft. long, covered by 28-ft. cantilevered canopy of concrete. Streetside ramp at right is for service vehicles.
—(Copyrighted Drawing by Carroll, Grisdale & Van Alen, Architects, and Airways Engineering Corp., Consultants.)

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CLEAR COMMUNICATION
OMNI NAVIGATION
WITH ARC AIRCRAFT RADIO CORPORATION
VHF
EQUIPMENT

Fly Directly
in Less Time—
Keep All Signals
STATIC FREE

Get static-free communication and the added reliability of omni range navigation by installing A.R.C.'s Type 17 2-way VHF Communication and Type 15B Omni Range Navigation Equipment. With the 15B tuned to the VHF omni stations now covering the country, you fly directly in less time. You can receive weather broadcasts simultaneously with the navigation signals—*static free!* The 15B takes the work out of navigation and provides long, trouble-free life. The Type 17 provides an independent communication system for use while the 15B is busy providing navigational information. Other A.R.C. equipment provides LF range and broadcast reception, and rotatable loop navigation.

All A.R.C. Airborne equipment is Type Certificated by CAA. It is designed for reliability and performance—not to meet a price. Installations for both single and multi-engined planes are made only by authorized service agencies. Write for further details or name of your nearest A.R.C. representative.

ARC
Aircraft Radio Corporation
BOONTON, NEW JERSEY
Dependable Electronic Equipment
Since 1928

Questions and Answers For Airport Operators

How YOU Can Sell Your Town Aviation

QUESTION: How can we get our small town interested in building a public airport? I own an airplane and there is one more owned here. We have to use a small meadow that we have leased from a farmer and the two planes are tied down. We would like to build "T" hangars but we feel that our lease is too short in term to let us put in the investment and the farmer won't give us any longer lease. We have run into considerable resistance in our suggestions that the town build a strip although it is true that there is more talk about it now than there was a year or so ago. What would you recommend?

ANSWER: We take it all that you are considering is a low-cost turfed landing strip free of hazard on the ground and in the approaches together with enough room to put up the necessary hangars and a small public area. We know, too, that even such an installation put in with Federal aid would still cost your community a sum of money which looms large in the city officials' eyes in view of the fact that there are only two airplanes in your town. Your officials have demands for many other things that affect a great many more people in the community — streets, lights, sewers, schools, and playgrounds. No doubt you are finding it hard to arouse interest, too, because your neighbors will say that your only interest is a place that won't cost you any money.

How you are going to overcome this particular reluctance, which is not unreasonable, is a question of merchandising aviation locally. We suggest that you be entirely unselfish in the use of your airplane. If you are going away on a trip and have an empty seat, see if someone else in the town wouldn't like to make the same trip with you. If you hear that the local banker wants to go to Kansas City or St. Louis, perhaps you can offer to take him. Your newspaper editor will be going places, too. If you are going up to get a little time in on the airplane or in your log book, take a passenger, not just any passenger, but someone whose sympathy in aviation may help to spread the word. Don't overlook the use to which you can put an airplane in an emergency whether it is personal or public. Above all, don't give people the idea that because you fly and own an aircraft, you think you're a little braver than the others. Then if you can get a few more people sold on air transportation as a way to travel and to ship, see if you can't form a little aviation club. Try to get the high school principal into it. Interest him in air age education. Material for his use in air age education is obtainable from the Air Age Educational Specialists of the Civil Aeronautics Administration in your Region. Don't overlook the possibility of interesting the teachers and the pupils themselves, since the children carry a lot of weight and influence in the home. Build up all the interest you can by participation in any civic or community efforts and tie the airplane to it as much as you can. It isn't easy and it may take time but it will prove worthwhile.

We can recall a West Texas town that only a year ago would not even consider an airport. Suddenly an oil boom developed. Wealth and employment flowed into the town; the population grew with a rush. That small town now is very anxious for an airport. It has even been the subject of an application for air transport operations. Now that is an unusual incident but it points to one thing. Those people who are themselves interested in air transportation cannot confine that interest to their own use where others in the community may have an unrecognized use for aircraft. Demonstration of that use to those people may turn them to your side in thinking. This applies to businessmen, the farmers, contractors, doctors and professional men of all sorts. The best means we know of converting nonusers to users is that empty seat you sometimes fly with.

One of the readers of this magazine told us of an incident the other day that might be of interest to you. He had landed on an airport in a town much smaller than yours, the airport being an old auxiliary field which had been turned over to the small town which, like your community, is not ready to support an operator, and the field receives very little aviation use. The Mayor and two members of the local government came out to the airport to meet this reader and were persuaded very reluctantly to take a ride in the four-place aircraft so they could take a look at their town. The persuasion almost amounted to pushing them into the aircraft but when they came back from that ten-minute ride, one of them said, "Why didn't somebody tell me about this before? This is for me when I travel." That's putting the empty seat to work, isn't it?

There is another thought that you might explore, too, in this connection. Have you talked to your county com-

Airmen's Calendar

Mar. 24-26—Texas Private Fliers Air Cruise to Mexico.

Mar. 22—1950 P. & W. Operations Clinic, Southwest Airmotive, Love Field, Dallas.

Apr. 16-20—American Association of Airport Executives' Annual Meeting, Neil House Hotel, Columbus, Ohio.

April 24-26 — Airport Operators Council Annual Meeting, Carter Hotel, Cleveland.

May 5-6 — National Intercollegiate Air Meet, Stephens College, Columbia, Missouri; Kenneth Newland, Stephens College, in charge.

May 13-14—Texas Private Fliers Association's 1950 Convention, Mineral Wells, Texas.

June 21-25—Ninety Nines Convention, Fort Clark, Brackettville, Texas.

missioners? In states where it is legal for counties to build, own, and operate airports, many counties are entering into airport construction.

Private Hangars on Public Land

QUESTION: What do you think of private ownership of hangars on a public airport? Recently I have tried to persuade the local city commission to permit me to build a "T" hangar so that I won't have to tie my airplane down. There is a large hangar on the field which will accommodate about eight airplanes but it is full most of the time and I can never be sure that my own aircraft will be under cover. The city commission says that it does not believe that privately-owned buildings should be built on publicly-owned ground.

(To be answered next month.)

VETERAN PILOTS

(Continued from page 28)

connection with which he was awarded the Legion of Merit for "achieving a miracle of supply." Other awards include Japan's Order of the Rising Sun, Order of Jiji Shimpo and membership in the Royal Flying Club of Japan—all bestowed during the 1924 global flight. He is a member of Quiet Birdmen and of Aviation Post 743 of the American Legion. Following the war he returned to Eastern, which made him a vice president in March, 1946.

Leland Dawson Anderson

AN airplane pilot for 18 years, "Slap" Anderson learned to fly in 1927 in a Jenny at Ventura, Calif., and did the usual instructing and barnstorming until 1932 when Coast Airways hired him to fly single-engine Stinsons between Los Angeles and San Francisco. He switched to Pacific Seaboard Airlines a year later and flew their Bellancas between LA, 'Frisco and Sacramento for a year before moving in 1934 to Memphis, joining Chicago & Southern to fly its tri-motor Stinsons and Bellancas between there and New Orleans. By 1936 C & S was operating Electras and in 1940 Slap was steering DC-3's until he was moved into the General Office. Since 1944 he has been divisional check pilot, divisional chief pilot, and system chief pilot, which post he has held since 1947. Something around 12,000 hours or more are in his background (he's been flying only a couple hundred hours a year for the last five years).

(Continued on next page)

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C. L. McElroy, Manager

C. L. Clabaugh

LIKE some other people we all know, Clay's first flight was in a home-made glider and his take-off was from a barn roof. It was in 1916 and he sailed through the ozone for 20 ft., before his flying machine collapsed and dumped him in the barnyard. Eight years later he took up flying seriously.

Clabaugh was chief pilot at Spartan in Tulsa "for a while," flew for Southwest Air Fast Express when it was operating at Tulsa and spent a year flying in Mexico for Firestone Tire. In 1931-32 he had charge of flight operations at Curtiss-Reynolds Airport. He went to work for CAA in 1938 and has been with them ever since, except for five years on active duty with the Navy. He lives in Chicago.

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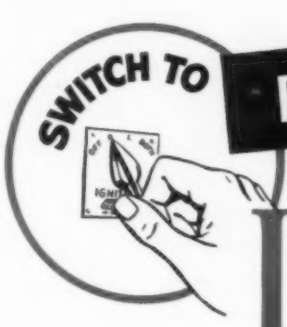

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